USDA NRCS Natural Resources Conservation Service

Tennessee Guide Sheet 574

Field Office:

Phone Number:

Spring Development

TN574

Water Supply for Livestock

DEFINITION

Springs or seeps can be developed into an economical source of water for livestock. This alternative water source can be utilized to eliminate problems associated with livestock watering in streams.

Caution should be used when developing springs that are the hydrologic water source for a wetland. In this case, consideration should be given to selecting an alternative location or the spring should be developed in such a manner that the wetland is not affected.

SYSTEM COMPONENTS

Collection System

This system usually consists of a drain tile or perforated plastic pipe not less than 3 inches in diameter surrounded by at least 6 inches of a sand-gravel filter. The pipe and filter are placed in a trench excavated through the water-bearing soil (seep) into the impervious layer that is causing the water to be perched near the surface. A cut-off wall of well-compacted clay, concrete, or other suitable material should be constructed along the downstream side of the trench to force the seep water into the collection system.

Spring Box

The spring box is used to hold the water from the collection system at a constant elevation and to allow soil particles to settle out of the collected water. The box should be made of concrete or vitrified clay tile with a tight, removable cover. The box should have a minimum diameter of 18 inches and a minimum depth of 3 feet.

Outlet Pipe

The outlet pipe from the spring box should be galvanized steel or approved plastic pipe with a minimum diameter of 1¼ inches. The outlet pipe delivers the water to the trough or tank.

Watering Facility

If possible, locate the facility so that water can be provided to more than one pasture. The watering water facility can be made of reinforced concrete, 20-gauge galvanized steel, or approved plastic. The water facility should be sized with enough capacity to meet the livestock requirements. The water facility should have an overflow pipe to control the water level and to remove excess flow safely away from the watering location. At locations subject to prolonged freezing conditions, the water facility should be installed or manufactured in a manner to prevent the water from freezing. A geotextile and gravel area or a concrete pad with a roughened surface is needed around the trough to provide a well-drained and stable area for the livestock to stand.

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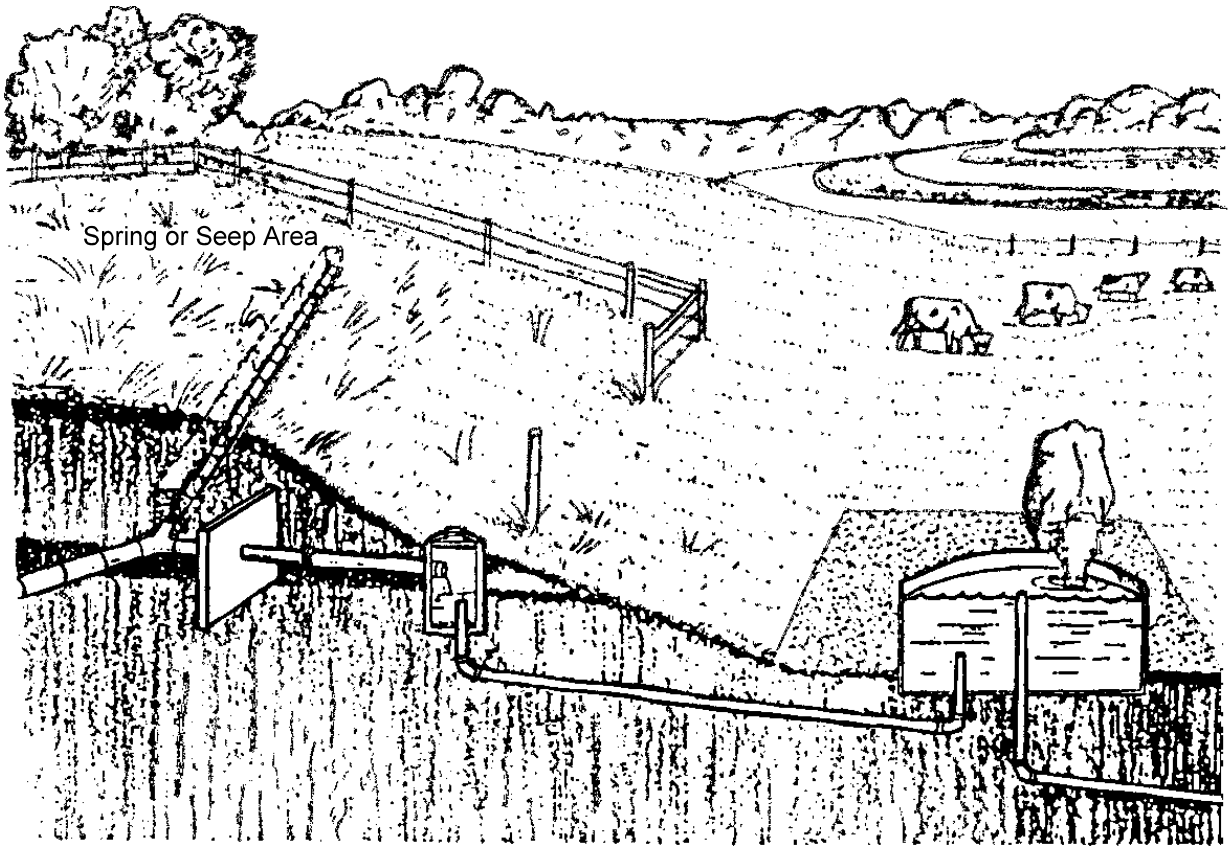
OPERATION AND MAINTENANCE

- Maintenance should be performed to keep the spring box and trough clean and debris removed. Algae growth in the tank may need to be controlled.

REFERENCES

NRCS TN Conservation Practice Standard
Code 574 - Spring Development
Code 614 – Watering Facility
Code 561 - Heavy Use Area Protection
NRCS Tennessee Guide Sheet
TN 614 – Watering Facility



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